

CLAIM AMENDMENTS

The following listing of claims will replace all prior versions and listings of claims in this application. Please amend the claims as follows. A complete listing of claims and their status in the above-identified application is shown below.

1. (Original) An ink recordable substrate coating composition having a pH less than 7 comprising:

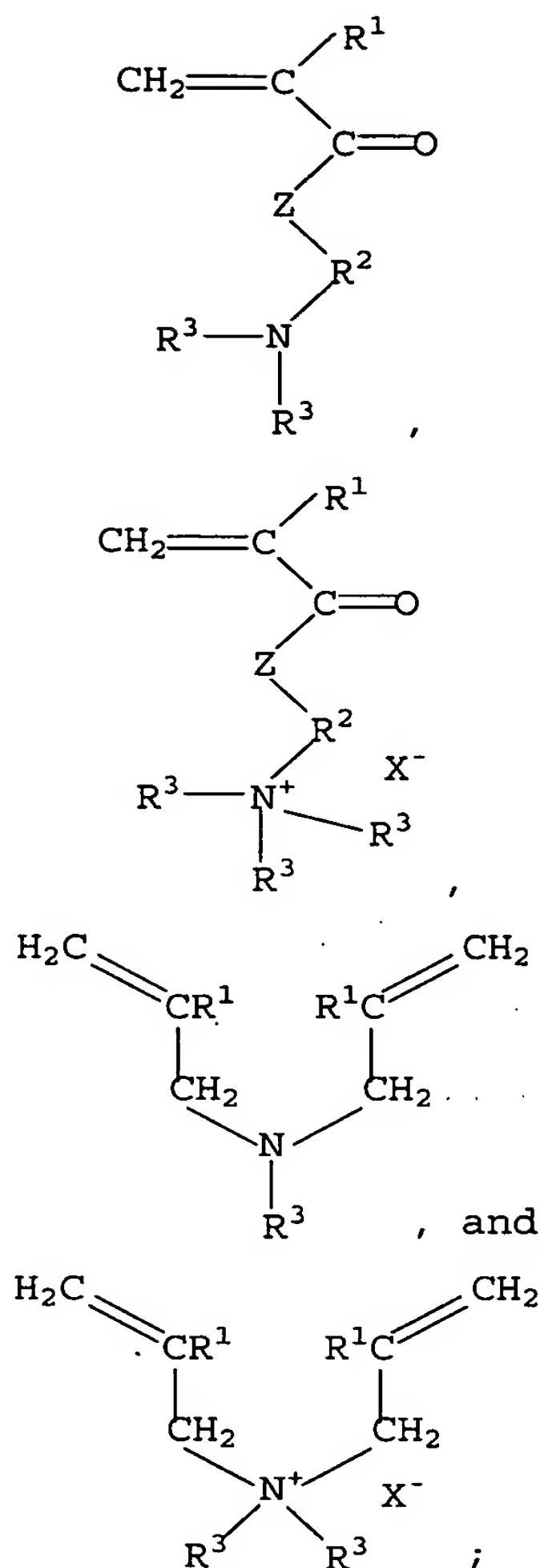
- (a) an aqueous polyurethane dispersion; and
- (b) an aqueous solution of a nitrogen containing polymeric dye fixative compound.

2. (Original) The ink recordable substrate coating composition of claim 1 wherein the polyurethane is selected from the group consisting of anionic polyurethanes, cationic polyurethanes, nonionic polyurethanes and mixtures thereof.

3. (Original) The ink recordable substrate coating composition of claim 2 wherein the aqueous anionic polyurethane dispersion comprises one or more anionic polyurethanes selected from the group consisting of aromatic polyether polyurethanes, aliphatic polyether polyurethanes, aromatic polyester polyurethanes, aliphatic polyester polyurethanes, aromatic polycaprolactam polyurethanes, and aliphatic polycaprolactam polyurethanes.

4. (Original) The ink recordable substrate coating composition of claim 2 wherein the aqueous anionic polyurethane has one or more acid groups selected from the group consisting of carboxylic acid, sulfonic acid and mixtures thereof.

5. (Original) The ink recordable substrate coating composition of claim 1 wherein the aqueous solution of a nitrogen containing polymeric dye fixative compound comprises a polymer comprising monomer residues derived from one or more nitrogen containing monomers selected from the group consisting of:



wherein R^1 is selected independently for each occurrence in each structure from the group consisting of H and C_1 to C_3 aliphatic; R^2 is independently for each structure a divalent linking group selected from the group consisting of C_2 to C_{20} aliphatic hydrocarbon, polyethylene glycol and polypropylene glycol; R^3 is independently for each occurrence in each structure selected from the group consisting of H, C_1 to C_{22} aliphatic hydrocarbon and a residue from the reaction of the nitrogen with epichlorohydrin; Z is selected from the group consisting of $-\text{O}-$ and $-\text{NR}^4-$, where R^4 is selected from the group consisting of H and CH_3 ; and X is selected from the group consisting of halides and methylsulfate.

6. (Original) The ink recordable substrate coating composition of claim 1 wherein the aqueous polyurethane dispersion is present at from 10 to 70 percent by weight of the ink recordable substrate coating composition and the aqueous solution of a nitrogen containing polymeric dye fixative compound is present at from 30 to 90 percent by weight of the ink recordable substrate coating composition.

7. (Original) The ink recordable substrate coating composition of claim 5 wherein the nitrogen containing monomer is one or more selected from the group consisting of dimethyl aminoethyl (meth)acrylate, (meth)acryloyloxyethyl trimethyl ammonium halides, (meth)acryloyloxyethyl trimethyl ammonium methylsulfate, dimethyl aminopropyl (meth)acrylamide, (meth)acrylamidopropyl trimethyl ammonium halides, (meth)acrylamidopropyl trimethyl ammonium methylsulfate, aminoalkyl (meth)acrylamides where the amine is reacted with epichlorohydrin, diallyl amine, methyl diallyl amine, and diallyl dimethyl ammonium halides.

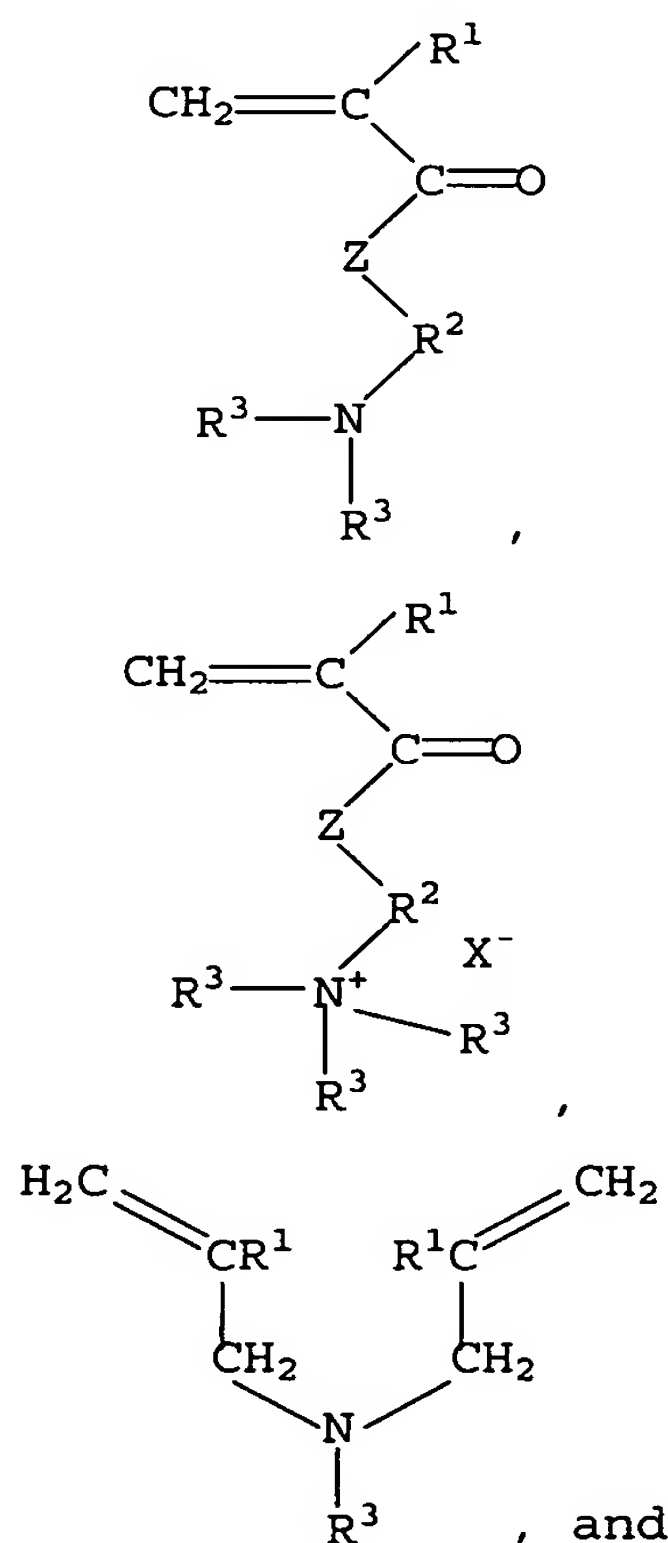
8. (Original) The ink recordable substrate coating composition of claim 3 wherein the anionic polyurethane is one or more selected from the group consisting of aromatic polyether polyurethanes, aliphatic polyether polyurethanes, aromatic polyester polyurethanes, and aliphatic polyester polyurethanes.

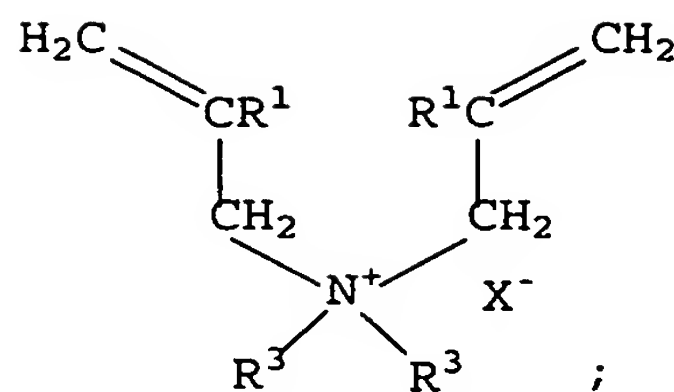
9. (Original) The ink recordable substrate coating composition of claim 1 wherein the total resin solids is from 1 to 35 wt.% based on the total weight of the ink recordable substrate coating composition.

10. (Original) The ink recordable substrate coating composition of claim 1 wherein the viscosity of the ink recordable substrate coating composition is less than 500 cps.

11. (Original) The ink recordable substrate coating composition of claim 1 prepared by mixing the nitrogen containing polymeric dye fixative compound (b) into the aqueous polyurethane dispersion (a).

13. (Original) The ink recordable substrate coating composition of claim 12 wherein the aqueous solution of a polymeric nitrogen containing dye fixative compound comprises a polymer comprising monomer residues derived from one or more nitrogen containing monomers selected from the group consisting of:





wherein R^1 is selected independently for each occurrence in each structure from the group consisting of H and C_1 to C_3 aliphatic; R^2 is independently for each structure a divalent linking group selected from the group consisting of C_2 to C_{20} aliphatic hydrocarbon, polyethylene glycol and polypropylene glycol; R^3 is independently for each occurrence in each structure selected from the group consisting of H, C_1 to C_{22} aliphatic hydrocarbon and a residue from the reaction of the nitrogen with epichlorohydrin; Z is selected from the group consisting of $-\text{O}-$ and $-\text{NR}^4-$, where R^4 is selected from the group consisting of H and CH_3 ; and X is selected from the group consisting of halides and methylsulfate.

14. (Original) The ink recordable substrate coating composition of claim 12 wherein the aqueous anionic polyurethane dispersion is present at from 10 to 70 percent by weight of the ink recordable substrate coating composition and the aqueous solution of a nitrogen containing polymeric dye fixative compound is present at from 30 to 90 percent by weight of the ink recordable substrate coating composition.

15. (Original) The ink recordable substrate coating composition of claim 13 wherein the nitrogen containing monomer is one or more selected from the group consisting of dimethyl aminoethyl (meth)acrylate, (meth)acryloyloxyethyl trimethyl ammonium halides, (meth)acryloyloxyethyl trimethyl ammonium methylsulfate, dimethyl aminopropyl (meth)acrylamide, (meth)acrylamidopropyl trimethyl ammonium halides, (meth)acrylamidopropyl trimethyl ammonium methylsulfate, aminoalkyl (meth)acrylamides where the amine is reacted with epichlorohydrin, diallyl amine, methyl diallyl amine, and diallyl dimethyl ammonium halides.

16. (Original) The ink recordable substrate coating composition of claim 12 wherein the nitrogen containing polymeric dye fixative compound is a polyamide amine reacted with epichlorohydrin.

17. (Original) The ink recordable substrate coating composition of claim 12 wherein the anionic polyurethane is one or more selected from the group consisting of aromatic polyether polyurethanes, aliphatic polyether polyurethanes, aromatic polyester polyurethanes, and aliphatic polyester polyurethanes.

18-109. (Cancelled)